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DCCA201

Reg. No.

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II Semester B.C.A. Degree Examination, September - 2023

COMPUTER SCIENCE

Computer Architecture

(NEP Scheme)

Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

Answer all the sections.

SECTION - A

Answer any **FOUR** questions out of the following. Each question carries two marks. (4×2=8)

1. Write the symbol, and truth table for NOR gate.
2. Convert $(0111)_2$ to excess 3 code.
3. Define flip flop. Mention its types.
4. Define operation code and operand.
5. Write any four micro operations.
6. Define RISC and CISC.



SECTION - B

Answer any **FOUR** questions out of the following. Each question carries five marks.

(4×5=20)

7. Explain NAND and EX-OR gate with logic symbol and truth table.
8. Explain the working of S-R flip flop with a neat diagram.
9. Explain the types of computer instructions based on number of address.
10. With a neat diagram explain the working of full adder.
11. Explain I/O interface unit with a neat diagram.

SECTION - C

Answer any **FOUR** questions out of the following. Each question carries **Eight** marks.

(4×8=32)

12. a. State and prove De Morgan's theorem.

(4)

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(2)

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(4)

b. Explain Encoder with logic diagram.

13. a. Explain Von-Neumann architecture.

(4)

b. With a neat How chart explain interrupt cycle?

(4)

14. a. What are the types of binary codes?

(4)

b. Simplify the following using K-Map

$$F(A, B, C, D) = \sum m(0, 2, 3, 4, 6, 8, 9, 13) + \sum d(7, 10, 12).$$

(4)

15. a. Explain any five addressing modes.

(5)

b. Explain the basic computer registers.

(3)

16. a. Explain Arithmetic micro operation with example.

(4)

b. Write a note on RAID.

(4)

17. Write short notes on

a. Classification of memories.

(4)

b. MIMD.

(4)